a titanium dioxide film having first and second opposing surfaces, a light transmittance of said titanium dioxide film being at least 50% for light having a wavelength of 550 nm, the first surface of said titanium dioxide film being formed on the second surface of said substrate, whereby light transmitted from said external source through the first and second opposing surfaces of said substrate and through the first surface of said titanium dioxide film to the second surface thereof causes photocatalytic activity to be generated on the second surface of said titanium dioxide film; and

a transparent precoat film interposed between the second surface of said substrate and the first surface of said titanium dioxide film.

88. (New): The titanium dioxide photocatalyst structure according to claim 87, wherein said transparent precoat film has a thickness of 0.02 μm to 0.2 μm.

89. (New): The titanium dioxide photocatalyst structure according to claim 88, wherein said precoat film is composed of SiO_2.

90. (New): A titanium dioxide photocatalyst structure comprising:

a transparent substrate;

a titanium dioxide film formed on said substrate, said titanium dioxide film having photocatalytic activity and a light transmittance of at least 50% for light having a wavelength of 550 nm; and

a transparent precoat film disposed between the transparent substrate and the titanium

dioxide film.

91. (New): The titanium dioxide photocatalyst structure according to claim 90 wherein the precoat film has a thickness of 0.02 μm to 0.2 μm.

92. (New): The titanium dioxide photocatalyst structure according to claim 90 wherein the precoat film is composed of SiO_2.

93. (New): A method for producing a titanium dioxide photocatalyst structure according to claim 90 comprising a producing process which includes the step of forming the titanium dioxide film on the transparent substrate by a method selected from the group consisting of a pyro-sol method, a dipping method, a printing method and a CVD method.

94. (New): A titanium dioxide photocatalyst structure comprising:

a transparent substrate;

a titanium dioxide film formed on said substrate, said titanium dioxide film having a thickness of 0.1 μm to 5 μm, photocatalytic activity and a light transmittance of at least 50% for light having a wavelength of 550 nm; and

a transparent precoat film disposed between the transparent substrate and the titanium dioxide film.

95. (New): The titanium dioxide photocatalyst structure according to claim 94

wherein the precoat film has a thickness of 0.02 μm to 0.2 μm.

96. (New): The titanium dioxide photocatalyst structure according to claim 94 wherein the precoat film is composed of SiO_2.

97. (New): A titanium dioxide photocatalyst structure comprising:

a transparent substrate;

a titanium dioxide film, containing an anatase crystal, formed on said substrate, said titanium dioxide film having photocatalytic activity and a light transmittance of at least 50% for light having a wavelength of 550 nm; and

a transparent precoat film disposed between the transparent substrate and the titanium dioxide film.

98. (New): The titanium dioxide photocatalyst structure according to claim 97 wherein the precoat film has a thickness of 0.02 μm to 0.2 μm.

99. (New): The titanium dioxide photocatalyst structure according to claim 97 wherein the precoat film is composed of SiO_2.